


1. Identification

Product identifier	WATERMARK® KARL FISCHER REAGENT, PYRIDINE-FREE SINGLE SOLUTION, 5 mg/ml	
Other means of identification		
Product code	1600	
Recommended use	Laboratory reagent for water determination using the Karl Fischer method.	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Company name	GFS Chemicals, Inc.	
Address	P.O. Box 245 Powell OH 43065 US	
Telephone	Phone	740-881-5501
	Toll Free	800-858-9682
	Fax	740-881-5989
Website	www.gfschemicals.com	
E-mail	service@gfschemicals.com	
Emergency phone number	Emergency Assistance	Chemtrec 800-424-9300

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Acute toxicity, dermal	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Sensitization, skin	Category 1
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 1 (central nervous system, kidney, liver, respiratory system, testes)
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1 (central nervous system, hematopoietic system, respiratory system, testes, thyroid gland)
OSHA hazard(s)	Not classified.	
Label elements		

Signal word

Danger

Hazard statement

Flammable liquid and vapor. Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation. May cause respiratory irritation. May damage fertility or the unborn child. Causes damage to organs (central nervous system, kidney, liver, respiratory system, testes). Causes damage to organs (central nervous system, hematopoietic system, respiratory system, testes, thyroid gland) through prolonged or repeated exposure. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response

In case of fire: Use appropriate media for extinction. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

Dispose of contents/container to an approved incineration plant.

Hazard(s) not otherwise classified (HNOC)

Not classified.

Environmental hazards

Hazardous to the aquatic environment, acute hazard Category 1

Hazardous to the aquatic environment, long-term hazard Category 2

Supplemental information

Precautionary statement

Prevention

Avoid release to the environment.

Response

Collect spillage.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

6% of the mixture consists of component(s) of unknown acute dermal toxicity. 17% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 17% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Hazardous components Chemical name	CAS number	%
ETHYLENEGLYCOLMONOMETHYL ETHER	109-86-4	60 - < 70*
DIETHANOLAMINE	111-42-2	10 - < 20*
SULFUR DIOXIDE	7446-09-5	10 - < 20*
IODINE	7553-56-2	5 - < 10*
TRADE SECRET*	Proprietary*	5 - < 10*

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Move to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Wash off with soap and plenty of water. Call a POISON CENTER or doctor/physician if you feel unwell. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Most important symptoms/effects, acute and delayed

Irritation of eyes and mucous membranes. May cause allergic skin reaction. Unconsciousness. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Proteinuria. Irritant effects. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Symptoms may be delayed. Provide general supportive measures and treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Dry chemical powder. Carbon dioxide (CO₂). Alcohol resistant foam. Powder.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical By heating and fire, harmful vapors/gases may be formed.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire-fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

Specific methods In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Avoid inhalation of vapors or mists. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Should not be released into the environment. This product is miscible in water. Prevent entry into waterways, sewers, basements or confined areas.

Large Spills: Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean contaminated surface thoroughly. Use water spray to reduce vapors or divert vapor cloud drift. After removal flush contaminated area thoroughly with water. This material and its container must be disposed of as hazardous waste. Following product recovery, flush area with water. Clean up in accordance with all applicable regulations.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

Environmental precautions Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe the mist or vapor. Do not taste or swallow. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid contact with clothing. Use personal protective equipment as required. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep at temperatures between 13 and 30°C. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in cool place. Store in a well-ventilated place. Keep container tightly closed. Keep in an area equipped with sprinklers. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
ETHYLENEGLYCOLM ONOMETHYL ETHER (CAS 109-86-4)	PEL	80 mg/m3
IODINE (CAS 7553-56-2)	Ceiling	25 ppm 1 mg/m3 0.1 ppm
SULFUR DIOXIDE (CAS 7446-09-5)	PEL	13 mg/m3 5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
DIETHANOLAMINE (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
ETHYLENEGLYCOLM ONOMETHYL ETHER (CAS 109-86-4)	TWA	0.1 ppm	
IODINE (CAS 7553-56-2)	STEL TWA	0.1 ppm 0.01 ppm	Vapor and aerosol. Inhalable fraction and vapor.
SULFUR DIOXIDE (CAS 7446-09-5)	STEL	0.25 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
DIETHANOLAMINE (CAS 111-42-2)	TWA	15 mg/m3
ETHYLENEGLYCOLM ONOMETHYL ETHER (CAS 109-86-4)	TWA	3 ppm 0.3 mg/m3
IODINE (CAS 7553-56-2)	Ceiling	0.1 ppm 1 mg/m3 0.1 ppm
SULFUR DIOXIDE (CAS 7446-09-5)	REL	5 mg/m3
	STEL	2 ppm 13 mg/m3 5 ppm

Biological limit values**US. ACGIH. BEIs. Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
ETHYLENEGLYCOLM ONOMETHYL ETHER (CAS 109-86-4)	1 mg/g	2-Methoxyacetic acid	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US. ACGIH Threshold Limit Values**

DIETHANOLAMINE (CAS 111-42-2) Can be absorbed through the skin.
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

2-METHOXYETHANOL (CAS 109-86-4) Can be absorbed through the skin.
DIETHANOLAMINE (CAS 111-42-2) Can be absorbed through the skin.

US. Minnesota Hazardous Substances List (Minn. Rules 5206.0400).

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

US. OSHA Table Z-1-A (29 CFR 1910.1000)

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. An eye wash and safety shower must be available in the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Chemical goggles are recommended.

Skin protection

Hand protection Wear protective gloves.

Other Wear appropriate chemical resistant clothing. Wear protective gloves.

Respiratory protection A NIOSH- approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Thermal hazards Not available.

General hygiene considerations When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Avoid contact with clothing. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Red brown.
Odor	Strong. Irritating.
Odor threshold	Not available.
pH	6 approximately
Melting point/freezing point	-46.8 °F (-43.788 °C) estimated
Initial boiling point and boiling range	255.2 °F (124 °C)
Flash point	114.80 °F (46.00 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	2.3 % estimated
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	446 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Miscible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	687 °F (364 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.

Other information

Density	1.20 g/cm ³
Flammability class	Combustible II estimated
Flash point class	Combustible II
Percent volatile	60 % estimated
Specific gravity	1.2
VOC (Weight %)	70 - 90 %

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Risk of ignition. Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Aluminum. Strong oxidizing agents. Strong acids. Ammonia. Caustics.
Hazardous decomposition products	Carbon dioxide, carbon monoxide, oxides of sulfur and nitrogen.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Based on available data, the classification criteria are not met.
Inhalation	May cause irritation to the respiratory system.
Skin contact	Harmful in contact with skin. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Unconsciousness. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Edema. Liver enlargement. Jaundice. Proteinuria. Behavioral changes. Decrease in motor functions. Irritant effects.

Information on toxicological effects

Acute toxicity Harmful in contact with skin.

Product	Species	Test Results
WATERMARK® KARL FISCHER REAGENT, PYRIDINE-FREE SINGLE SOLUTION, 5 mg/ml (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2064.5161 mg/kg, estimated 85 ml/kg, estimated
<i>Inhalation</i>		
LC50	Guinea pig	9090.9092 mg/l, 20 Hours, estimated 5136 mg/l
	Mouse	1181.8182 mg/l, 154 Hours, estimated 9090.9092 mg/l, 4 Hours, estimated 5227 mg/l
	Rat	1363.6364 mg/l, 847 Hours, estimated 2419 mg/l
<i>Oral</i>		
LD50	Guinea pig	1532.2581 mg/kg, estimated
	Mouse	99999 mg/kg 4.4522 g/kg, estimated
	Rabbit	99999 mg/kg 142.8571 g/kg, estimated
	Rat	1902.4349 mg/kg, estimated 12.2066 g/kg, estimated
<i>Other</i>		
LD50	Mouse	2860.0471 mg/kg, estimated

Product	Species	Test Results
	Rat	3451.6128 mg/kg, estimated
Components	Species	Test Results
DIETHANOLAMINE (CAS 111-42-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	11.9 ml/kg
<i>Oral</i>		
LD50	Rat	1820 mg/kg 710 mg/kg 1.82 g/kg
<i>Other</i>		
LD50	Mouse	2300 mg/kg
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	1280 mg/kg
<i>Inhalation</i>		
LC50	Rat	1500 mg/l, 7 hours
<i>Oral</i>		
LD50	Guinea pig	950 mg/kg
	Mouse	2560 mg/kg 2.8 g/kg
	Rabbit	890 mg/kg
	Rat	2370 mg/kg
<i>Other</i>		
LD50	Mouse	2147 mg/kg
	Rat	2140 mg/kg
IODINE (CAS 7553-56-2)		
Acute		
<i>Oral</i>		
LD50	Mouse	22 g/kg
	Rabbit	10 g/kg
	Rat	14 g/kg
SULFUR DIOXIDE (CAS 7446-09-5)		
Acute		
<i>Inhalation</i>		
LC50	Guinea pig	1000 mg/l, 20 Hours 130 mg/l, 154 Hours
	Mouse	1000 mg/l, 4 Hours 150 mg/l, 847 Hours
TRADE SECRET (CAS Proprietary)		
Acute		
<i>Oral</i>		
LD50	Rat	970 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	May cause an allergic skin reaction.

Germ cell mutagenicity Due to lack of data the classification is not possible.
Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

DIETHANOLAMINE (CAS 111-42-2) 2B Possibly carcinogenic to humans.
 SULFUR DIOXIDE (CAS 7446-09-5) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Possible reproductive hazard. May damage fertility or the unborn child.
Specific target organ toxicity - single exposure Respiratory tract irritation. Causes damage to organs (central nervous system, kidney, liver, respiratory system, testes).
Specific target organ toxicity - repeated exposure Causes damage to organs (central nervous system, hematopoietic system, respiratory system, testes, thyroid gland) through prolonged or repeated exposure.
Aspiration hazard Due to lack of data the classification is not possible.
Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product	Species	Test Results
WATERMARK® KARL FISCHER REAGENT, PYRIDINE-FREE SINGLE SOLUTION, 5 mg/ml (CAS Mixture)		
Crustacea	EC50	Daphnia
		441.4286 mg/l, 48 hours, estimated
Fish	LC50	Fish
		23.7654 mg/l, 96 hours, estimated
Components	Species	Test Results
DIETHANOLAMINE (CAS 111-42-2)		
Aquatic		
Crustacea	EC50	Water flea (Ceriodaphnia dubia)
		61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)
		100 mg/l, 96 hours
ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)		
Aquatic		
Fish	LC50	Bluegill (Lepomis macrochirus)
		> 10000 mg/l, 96 hours
IODINE (CAS 7553-56-2)		
Aquatic		
Crustacea	LC50	Water flea (Daphnia magna)
		0.55 - 1.32 mg/l, 96 hours
		0.03 - 1 mg/l, 48 hours
Fish	LC50	Guppy (Poecilia reticulata)
		3 mg/l, 24 hours
		Rainbow trout,donaldson trout (Oncorhynchus mykiss)
		0.48 - 0.58 mg/l, 96 hours
		> 0.01 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

ETHYLENEGLYCOLMONOMETHYL ETHER -0.77
 DIETHANOLAMINE -1.43
 IODINE 2.49

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Not available.

Hazardous waste code	D001: Waste Flammable material with a flash point <140 F
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1188
UN proper shipping name	Ethylene glycol monomethyl ether
Transport hazard class(es)	3
Subsidiary class(es)	Not available.
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Labels required	3
Special provisions	B1, IB3, T2, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1188
UN proper shipping name	Ethylene glycol monomethyl ether
Transport hazard class(es)	3
Subsidiary class(es)	-
Packaging group	III
Environmental hazards	No
Labels required	Not available.
ERG Code	3L
Special precautions for user	Not available.

IMDG

UN number	UN1188
UN proper shipping name	ETHYLENE GLYCOL MONOMETHYL ETHER
Transport hazard class(es)	3
Subsidiary class(es)	-
Packaging group	III
Environmental hazards	
Marine pollutant	No
Labels required	Not available.
EmS	F-E, S-D
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

General information DOT Regulated Marine Pollutant. IMDG Regulated Marine Pollutant.

DOT





15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) 1.0 % One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

DIETHANOLAMINE (CAS 111-42-2) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

DIETHANOLAMINE (CAS 111-42-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

SULFUR DIOXIDE (CAS 7446-09-5)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

IODINE (CAS 7553-56-2) 2.2 % weight/volumn

DEA Exempt Chemical Mixtures Code Number

IODINE (CAS 7553-56-2) 6699

Food and Drug Administration (FDA) Not regulated.

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

DIETHANOLAMINE (CAS 111-42-2)
 ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)
 IODINE (CAS 7553-56-2)
 SULFUR DIOXIDE (CAS 7446-09-5)

US. New Jersey Worker and Community Right-to-Know Act

DIETHANOLAMINE (CAS 111-42-2) 500 lbs
 ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4) 500 lbs
 SULFUR DIOXIDE (CAS 7446-09-5) 500 lbs

US. Pennsylvania RTK - Hazardous Substances

DIETHANOLAMINE (CAS 111-42-2)
 ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)
 IODINE (CAS 7553-56-2)

SULFUR DIOXIDE (CAS 7446-09-5)

US. Rhode Island RTK

DIETHANOLAMINE (CAS 111-42-2)

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)

SULFUR DIOXIDE (CAS 7446-09-5)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

DIETHANOLAMINE (CAS 111-42-2)

ETHYLENEGLYCOLMONOMETHYL ETHER (CAS 109-86-4)

SULFUR DIOXIDE (CAS 7446-09-5)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date March-21-2014

Version # 01

Further information Not available.

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information Product and Company Identification: Synonyms
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Transport Information: Proper Shipping Name/Packing Group
GHS: Classification